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ABSTRACT

The Alliance Library System (ALS) is one of 12 regional library systems in Illinois, providing a full spectrum of support services for 300 member libraries of all types (public, school, academic, and special) located in west central Illinois. This paper describes the process by which ALS implemented a voice/video/data network connecting their four service centers. The discussion is organized into the following sections: (1) "Making Choices," including background on ALS and problems that led to exploration of the options of an integrated network; (2) "Taking Chances," including planning and implementation of client/server and peer-to-peer networks, investigation of videoconferencing possibilities, and development of a network plan; (3) "Facing Challenges," including coordinating the implementation of the integrated WAN (wide-area network) and problems with videoconferencing implementation; and (4) "Managing Change," including staff training, development of a videoconferencing policy, and the debut of the videoconferencing system. (DLS)

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# Making Choices, Taking Chances, Facing Challenges, Managing Change: The Implementation of a Voice/Video/Data Network at the Alliance Library System

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## Making Choices—Valerie J. Wilford

The Alliance Library System (ALS) is one of twelve regional library systems in Illinois, providing a full spectrum of support services for 300 member libraries of all types (public, school, academic, and special) located over a 14,000 square mile area in west central Illinois. Services provided include delivery of materials, consulting, continuing education, grant assistance, back-up reference and interlibrary loan, technology services, and coordination of cooperative projects such as group purchasing. ALS has four service centers, located in Pekin, Galesburg, Bloomington, and Quincy. Each center has a small computer training center, a videoconference meeting room, and a large meeting room for continuing education and meetings. ALS is funded through the Illinois State Library, a division of the Office of the Secretary of State.

ALS was formed in 1994 and was the product of a merger of four much smaller regional library systems. Library members, ALS staff, and board were concerned about the large geographical area covered by the system and the provision of services offered over a large service area to the many libraries. During the merger, town hall meetings, focus groups, and other types of information gathering was done to assist the Transition Board in making decisions about how services could best be offered.

The first step taken by staff, under the leadership of Executive Director Valerie Wilford and Library Development Consultant Lee Logan, was to design, purchase, and install a phone system. This way a librarian could call one toll-free number and reach any service center or staff member no matter where they were located. A Toshiba telephone system was purchased and installed and the service centers were connected by tie lines so that calls coming into one service center, could be easily transferred to the other service centers. This worked very well, but it soon became evident that more was needed.

Staff were spending hours on the road traveling to service centers to replicate continuing education events and consulting appointments. If an event could only be held once at a single location, member librarians became discouraged with the amount of driving involved to attend that particular meeting or event. There were also problems with staff sharing data files, internal communication, and each staff member having to dial into the Internet. It was at this point in 1995 that investigation into an integrated voice/video/data network began.

Valerie Wilford appointed a team to begin investigation of options of an integrated network. The team included Lee Logan, Lori Bell, Automation/Technology Coordinator, Kay Cloyes,



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Technology Consultant, Ted Matheny, Network Manager, and Karen Michaelson, Technical Support Manager. Each staff member had a different background to bring to the project.

### Taking Chances—Lee Logan and Lori Bell

The first activity which took place was the planning and implementation of a client/server Novell Network in the Pekin service center with smaller peer-to-peer networks in the other service centers. Since the tie lines connecting the phone system would not carry much data effectively, staff at the other service centers dialed into the Novell server to transfer files and use GroupWise software for communications. For Internet service, they were also dialing into the ALS Internet server.

The staff then began investigating videoconferencing possibilities. CUCMe was considered as an Internet option on the desktop. At the time, the standard speed of transmission over a modem was 14.4, video quality was poor, although sound was acceptable. There was much discussion about this product, and it was decided that the quality of the transmission would be even more discouraging to members than the travel to come to an event. The staff also looked at desktop units which seemed to work well with acceptable quality and transmission over an ISDN line; however ISDN lines were not available at that time in two service center areas so that idea was abandoned. The team then began to look at what seemed to be "Cadillac" systems, dual-monitor Picturetel and VTEL units with 23 and 28 inch monitors which worked over fractional T1 lines (384 speed, the equivalent of 6 64 kps lines or 6 channels of a T1 line). The team talked with a number of vendors about videoconferencing products and became frustrated with the lack of a standard, proprietary equipment which would not work with other systems, costs, and a consistent lack of knowledge by many of the vendors which would be involved in a videoconferencing project. Hours were spent discussing various options and whether or not ALS should buy its own multi-point-control (MCU) or bridge or contract for this service. Staff contacted vendors and quickly became discouraged at the hourly cost for each site for a videoconference ($40-60 an hour per site). These prices seemed to prohibit testing, experimentation and an in-depth learning experience of the system.

The staff team found a vendor which was most helpful and knowledgeable in assisting them in formulating a plan for an integrated wide area network; selected proposed videoconferencing equipment for each office with costs; included equipment such as routers needed for a wide area network and Internet services; and proposed an upgrade for the phone system which would work on the network. The staff was ready to make a presentation to the ALS board when the Illinois State Library initiated a plan for a statewide library system videoconferencing network. Suddenly, the plan changed! The Illinois State Library selected videoconferencing equipment for the whole state and provided a grant to assist systems with the initial costs. ISL also worked with ALS to obtain bridging services from Central Management Services (CMS) so that all four service centers could connect or any one service center could connect with other sites on the CMS network. There was a monthly charge which included costs for T1 lines to the video network; unlimited connection time and bridging services; and support. Little did staff know at the time how much support would be needed. The proposal was rewritten, optimistically titled "Network 97" and approved by the ALS Board of Directors.

### Facing Challenges—Lee Logan and Kay Cloyes

The first step of implementing the integrated WAN was to get all the vendors together to communicate with each other, hopefully understand the project, and work together and to create a project timetable. This included a telephone service vendor; a telecommunications vendor; a network vendor; a Madge equipment vendor; a videoconference vendor and the staff implementation team. At the first meeting, vendors spoke to each other in the technical lingo involved in each of their specialties with ALS staff as uncertain interpreters. This turned out to be an excellent strategy as a tight timetable had to be created with all vendors working together. A week was chosen for network equipment installation; Madge equipment installation; and the telephone equipment upgrade. Each staff member was given an assignment for coordination. Tempers and tensions ran high with the pressure of the equipment installation and implementation. At the end of the week, members and staff could use the phone system and communicate successfully over the Novell network without having to dial in. Because of its integration, all lines and services had to run through the Madge "boxes" located at each office.

Little did the staff know that the implementation of the voice and data components of the network were a piece of cake compared to the videoconferencing implementation. Technology Consultant Kay Cloyes and Technical Support Manager Karen Michaelson took the lead roles for the implementation of the videoconferencing for all four offices which took huge chunks of time and patience over a period of September-December 1997. One of the problems was the number of vendors involved in the project. No specific vendor wanted to take credit for the problems with the video system; passing the blame became a way of life. Since finding expertise in this area was difficult, staff were totally dependent upon the vendors. Phone bills were high; with one vendor, each time they had to communicate, it was with a different representative; this vendor did not want to send anyone on-site. Phone lines were tested and retested. The videoconferencing system seemed like a teenager in angst; one day it would work well, very well, and the next day it would not come up at all. There was no rhyme or reason as to why this would happen one day and not the next. It seemed the main problem was that although other videoconferencing networks existed, they were not on the new "switched" technology with the Madge boxes. Other networks had full T1s dedicated to video and "closed" networks in which their systems could not talk to other systems. Finally, the system evened out and began working consistently.

### Managing Change—Kay Cloyes and Lori Bell

The implementation of the videoconferencing system brought a welcome change, addition, and format for ALS continuing education events, consulting meetings, board meetings, advisory meetings, you name it. Of course, the first group to experience the video system was the ALS board during the early cold winter months of 1998. ALS board members represent different geographic areas of the system and so no matter where the meeting is held, someone has to travel. The board members loved going to their nearest service center for a meeting!

Kay Cloyes planned an aggressive training program for staff on all levels. She taught staff how to operate the system using the keyboard, the remote mouse, and the Pen Pal. She held sessions on how to put Power Point demonstrations on the system, worked with Ted Matheny, Network Manager, on putting the video units which have a pc base on the

Internet so Internet demos and training could be scheduled. Kay also developed documentation to assist video operators.

Valerie Wilford appointed a committee to develop a videoconferencing policy for use by the System, system members, and outside groups. The committee involved the staff network team, Service Center Managers, and other staff. An in-depth comprehensive policy was developed and approved by the ALS board.

The real debut of the videoconferencing system was March 4, 1998 with a continuing education event on an ALS digitization project. Lori and Kay developed a schedule and a script and provided speakers with an agenda for the meeting. There was a video operator scheduled at each site as well as speakers at each site. At the first meetings and continuing education events, there was little interaction. It was obvious that people were fascinated with the interactive video but were also intimidated by it. Interaction, questions, etc. were requested from each site. Since that time, many meetings and events are scheduled on video. Some librarians are reticent to attend an event if it is not on video because they like the convenience of traveling to their nearest service center.

No one knows where the teen-age angst of the videoconferencing system has gone, but there is no doubt everyone hopes it is gone for good.

### Autobiographical Sketches

**Valerie J. Wilford** is Executive Director of the Alliance Library System since 1994. Before that, she was Director of the Illinois Valley Library System and taught Library Science at Illinois State University for seventeen years.

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**Kay Cloyes** is the Technology Consultant for the Alliance Library System. She is in charge of videoconference and PC and technology training for member libraries. Previously, she was the Director of the Caterpillar Technical Library and has an extensive background in data processing.

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